

REMARKS/ARGUMENTS

Claims 1 to 3, 5, 6, 8, 9, 12 to 23, 26, 28 to 34, 36 and 38 to 56 remain in this application. Claims 4, 7, 10, 11, 24, 25, 27, 35 and 37 have been cancelled. New claims 48 to 56 have been added.

As suggested by the Examiner, claims 17 and 26 have been amended to provided antecedent basis, claim 18 has been amended to improve clarity, and claim 47 has been amended to remove the dependency on two claims. Claims 1, 9, 12 to 23, 26, 28, 33, 34, 36, 38 to 40, 42 to 45 and 47 have been amended to more definitely claim the invention and improve clarity. Amended claim 1 includes the limitations of original claims 4 and 11. Claim 15 has been rewritten in independent form with the limitations of original claims 4 and 11. The dependency of claims 12 to 17, 26, 28, 36 and 38 has been changed since the claims from which they originally depended have been canceled. The dependency of claims 42 to 44 has been changed to provide antecedent basis for "adhesion promoter". Independent claim 33 has been amended to include the limitation of claims 11 and 35. Independent claim 40 has been amended to include the limitation of claim 11.

New claims 48 to 56 have been added to more definitely claim the invention. New claims 49, 51, 53 and 55 require the top coat formulation to further comprise an inorganic polymerizable monomer. New claims 48, 50, 52, 54 and 56 require the inorganic polymerizable monomer to be a tetraalkylsiloxane. Support for these claims is found at page 8, lines 19 to 26, of the Specification, for example.

The Abstract has been amended to reduce the number of words to less than 150, as requested by the Examiner.

The Figure 1 has been amended to include reference numeral 102, as requested by the Examiner. The drawings have been amended to improve the definiteness of the lead lines.

Original claim 4, the limitations of which are included in amended claims 1 and 33, was rejected as being anticipated by Mack et al. USPN 5,198,406 (Mack) and Laurence et al. US Patent Application Publication No. 2002/0160680 (Laurence), and as being obvious over Ward et al. US Patent Application Publication No. 2002/0150779 (Ward) in view of Kang et al. USPN 6,238,798 (Kang).

With regard to Mack, the Examiner states in the last sentence of paragraph 14 of the Office Action that Mack “teaches the use of an adhesion promoter between the coating and the substrate (col. 6 lines 36-37).” It is noted that the substrate cited in Mack is the support substrate. The Mack recording film comprises a transparent support carrying a dye image-forming system and a protective topcoat positioned above the dye image-forming system. See column 3, lines 31 to 39.

Mack does not teach a wear layer, and particularly a composite wear layer structure comprising a PET wear layer and a coupling agent containing top coat. It only teaches the use of a protective topcoat. Therefore, it cannot teach or suggest an adhesion promoter interposed between an top coat and a wear layer, as required by amended independent claims 1 and 33. Independent claims 1 and 33 are therefore patentable over Mack.

Laurence does not teach or suggest “an adhesion promoter.” It appears that the Examiner is equating an adhesive with an adhesion promoter. “Adhesion promoter” is a term of art that means “a substance used to improve the bonding of the adhesive to the

substrate.” See ASTM D907. Therefore, since amended independent claims 1 and 33 require an adhesion promoter, they are not anticipated by or obvious in view of Laurence.

Kang does not teach or suggest an adhesion promoter. It is directed to a creamer composition that may be applied to a substrate to obtain stain, oil and/or water repellency, as well as abrasion resistance and hardness. See the Abstract. PET is one of the substrates that may be coated. See Examples 3 and 10 to 15.

Ward does teach a flooring material comprising a PET film with an adhesion primer layer. See paragraph [0010].

It is the Examiner’s position that it would be prima facie obvious to use the top coating of Kang in the flooring application of Ward. However, if Kang’s top coat were substituted for the PVC clearcoat 112 of Ward, the composite wear layer of amended claim 1 would not result. Ward teaches a PVC basecoat 108 and a foamable PVC plastisol layer 110 that are interposed between the PVC clearcoat 112 and PET film 106. The foamable PVC plastisol layer is opaque. Therefore, since a wear layer is either transparent or, at most, translucent, the PET film of Ward cannot be considered to be part of a wear layer composite. Amended claim 1 requires the adhesion promoter to be between the PET wear layer and the top coat layer.

Kang does not teach or suggest a composite wear layer. Further, Kang does not teach or suggest a composite wear layer comprising a PET wear layer and top coat with an interposed adhesion promoter. Therefore, amended claim 1 is allowable over Kang and over Ward in view of Kang.

Original claim 15 was rejected as being anticipated by Kang and Mack, and as being obvious over Laurence in view of Kang and Ward in view of Kang. Claim 15 has

been rewritten in independent form with the limitations of original claims 4 and 11.

Therefore, amended claim 15, and the claims dependent thereon, are allowable over Kang, Mack and Ward in view of Kang for the same reasons as amended claim 1.

Neither Kang nor Laurence teach or suggest an adhesion promoter, which is required by amended claim 15. Therefore, amended claim 15 is allowable over Kang and Laurence and Laurence in view of Kang.

Further, claim 15 requires the top coat formulation to comprise an inorganic polymerizable monomer. None of the cited references teach or suggest this component. Therefore, amended claim 15 is allowable for this reason as well.

Claim 19 has been amended to claim a surface covering comprising a substrate. Support for this amendment is found at page 2, lines 17 to 19, of the Specification, for example. Claim 19 has been rejected as anticipated by Kang, Mack and Laurence, and obvious over Ward in view of Kang. The PET layer in Kang and Mack is the substrate or support on to which the top coat composition is applied. Therefore, neither Kang nor Mack teach or suggest a composite wear layer comprising a top coat and PET layer on a substrate. Claim 19 is allowable over Laurence and Ward in view of Kang for the same reasons as claim 1.

Claims 20 and 21 have been rejected as anticipated by Laurence and obvious over Kang in view of Hensel and Ward in view of Kang. These claims are allowable over Laurence and Ward in view of Kang for the same reasons as claim 1. Claims 20 and 21 are allowable over Kang in view of Hensel for the reasons discussed below with regard to claim 40.

With regard to claim 31, the Examiner states in paragraph 28 on page 9 of the Office Action that the claimed gloss retention is not limited by a method or time period. This is incorrect. "Gloss retention" is a term of art that those of ordinary skill know how to measure, for example by Federal Test Method Standard 141a, methods 6141 and 6142.

Amended claim 33 requires an adhesion promoter to be applied to a PET film and an inorganic/organic top coat be applied to the adhesion promoter. Therefore, the adhesion promoter is interposed between the top coat and the PET film and amended claim 33 is allowable over Ward in view of Kang for the same reasons as discussed above with respect to claim 1.

Independent claim 40 has been rejected as being obvious over Kang in view of Hensel and over Laurence in view of Kang. Claim 40 has been amended to require applying an organic/inorganic top coat formulation comprising a coupling agent to a PET film to form a composite wear layer.

As acknowledged by the Examiner in paragraph 27 on pages 8 and 9 of the Office Action, Kang does not teach or suggest using his coating/PET composite as a wear layer to protect a substrate. Hensel does not teach or suggest a composite wear layer. As set forth at column 6, lines 7 to 9, the "basic concept [of Hensel] is combining thin, hard wear surfaces with decorative, support structures to produce unique wear-resistant flexible flooring products. In both Figures 2 and 4 of Hensel, a decorative layer 4 is interposed between the hard inorganic wear layer 3 and the PET support structure 2.

Substituting the Kang coating/PET composite for the Hensel wear layer/decorative layer/PET support, as suggested by the Examiner, would destroy the invention of Hensel. Therefore, claim 40 is allowable over Hensel in view of Kang.

In like manner, neither Kang nor Laurence teach or suggest a composite wear layer. The PETG film 26 of Laurence is located below a decorative print layer 24. Since claim 40 has been amended to require the formation of a composite wear layer, the Examiner's suggestion to substitute the Kang coating for the Laurence melamine resin overlay sheet 22 is moot. Such a substitution would not yield a composite wear layer. Therefore, claim 40 and the claims dependent thereon are allowable over Laurence in view of Kang.

Further, as discussed above, Kang does not teach or suggest an adhesion promoter. Therefore, the claims dependent on claim 40, all of which require an adhesion promoter are allowable over Laurence in view of Kang for this reason as well.

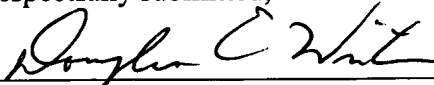
New claims 49, 51, 53 and 55 require the top coat formulation to further comprise an inorganic polymerizable monomer. Again, None of the cited references teach or suggest this component. Therefore, amended claims 49, 51, 53 and 55 are allowable for this reason as well.

New claims 48, 50, 52, 54 and 56 require the inorganic polymerizable monomer to be a tetraalkylsiloxane. None of the cited references teach or suggest a wear layer composition comprising a tetraalkylsiloxane. Therefore, these claims should be allowed for this reason as well.

Applicants respectfully request that a timely Notice of Allowance be issued in the application.

8/10/04
Date

Respectfully submitted,


Douglas E. Winters
Reg. No. 29,990
Attorney for Applicants

Appl. No. 10/060,487
Amdt. & Resp. Dated August 10, 2004
Reply to Office Action of March 10, 2004

Armstrong World Industries, Inc.
P.O. Box 3001
Lancaster, PA 17604
(717) 396-4070 (Telephone)
(717) 396-6121 (Facsimile)

Certificate of Mailing

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, PO Box 1450, Alexandria, Virginia 22313-1450 on: 8/10/04.

April L. Fiedler

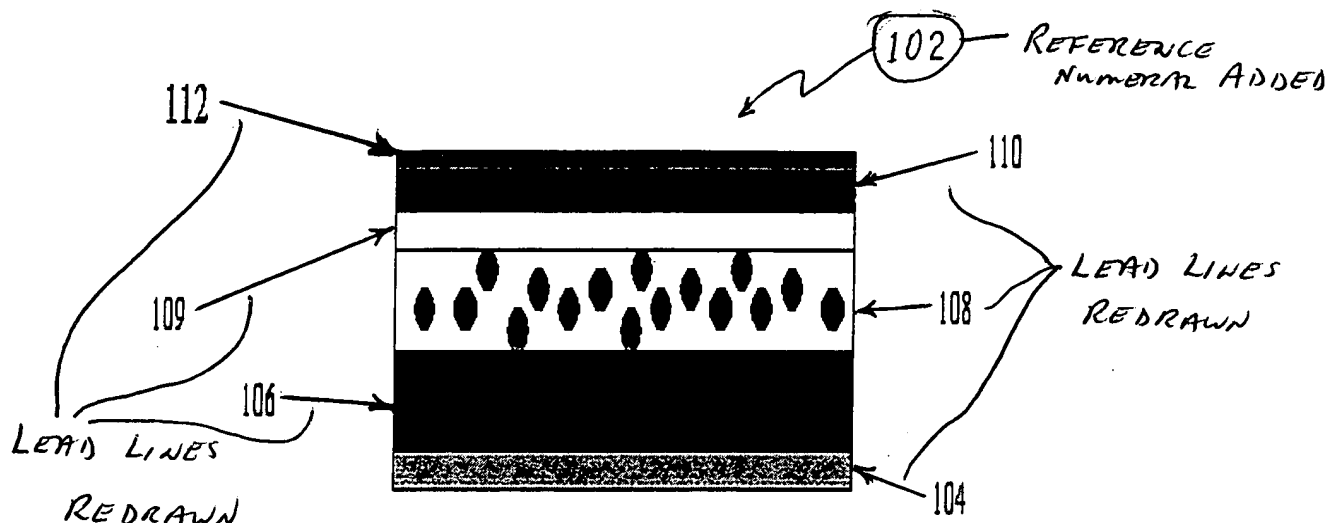
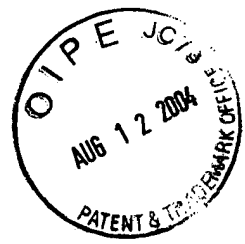


Figure 1



Appl. No. 10/060,487
Amdt. Dated Aug. 10, 2004
Reply to Office Action of Mar. 10, 2004
Annotated Sheet Showing Changes

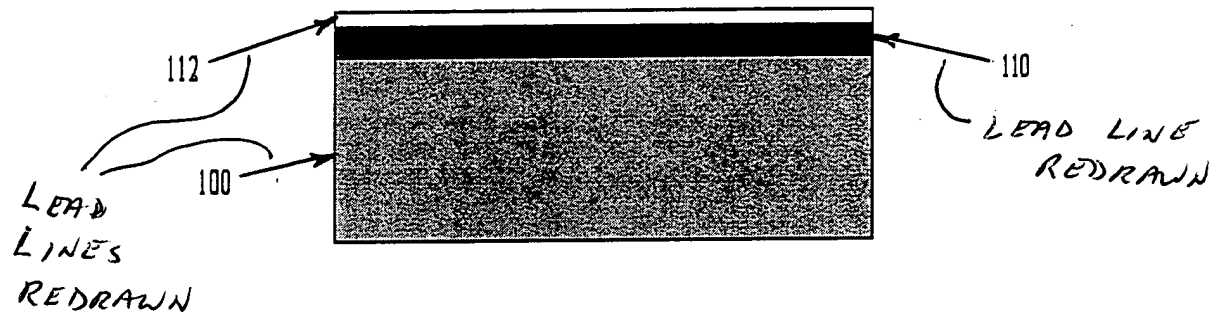


Figure 2